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ABSTRACT

DePaul University, a private Midwestern university, uses a pyramid model, which builds from prospects to alumni, to frame discussions of student flow. Using this pyramid, institutional and enrollment management researchers collaborated on the analysis of the university's Graduating Senior Survey to maximize efficiencies and enrich decision making. This survey is the primary tool for outcomes assessment and, as such, it assesses satisfaction and interest in continued education. Analyses were conducted in terms of both the pyramid outputs, or perceived learning outcomes, and inputs related to the recruitment of alumni. Recommendations are provided for institutional researchers based on the collaborative evaluation efforts. Findings show that the survey is a valuable starting point in benchmarking student perceptions of the institution's learning outcomes and experiences. An appendix lists the university's learning goals. (Contains 2 figures, 12 tables, and 15 references.) (Author/SLD)

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Running Head: GRADUATING SENIOR SURVEY

ED 476 433

Working Both Ends of the Pyramid

Using a Graduating Senior Survey to Understand Student Flow

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DePaul University

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ABSTRACT

One private university uses a pyramid model, which builds from prospects to alumni to frame discussions of student flow. Using this pyramid, institutional and enrollment management researchers collaborated on the analysis of the Graduating Senior Survey to maximize efficiencies and enrich decision-making. The survey is the primary tool for outcomes assessment and assesses satisfaction and interest in continued education. Analyses were conducted in terms of both the pyramid outputs, or perceived learning outcomes, and inputs related to the recruitment of alumni. Recommendations will be provided for institutional researchers based on our collaborative efforts.

Working Both Ends of the Pyramid:

Using a Graduating Senior Survey to Understand Student Flow

Background

DePaul University, a private, Midwestern university, enrolling over 20,000 students uses an alternative to the traditional enrollment funnel to frame strategic enrollment management processes. The alternative, described as the pyramid model, builds from prospects at the base to alumni at the peak, to frame discussions of student flow. Using this pyramid as a broad foundation for identifying critical research opportunities in the student flow process, the Office of Enrollment & Marketing Research (OEMR) and the Office of Institutional Planning and Research (OIPR) engage in collaborative research efforts to maximize efficiencies and enrich decision-making information. The Senior Survey, fielded annually by OIPR, is one example of such collaboration. We analyzed this survey to examine both the inputs of the pyramid, as they relate to the recruitment of undergraduates interested in graduate study, and the outputs, as they relate to assessment.

Student College Choice

Hossler and Gallagher (1987) offer a three-stage framework for understanding how students decide to attend college (Braxton, 1990). During the predisposition stage, students decide whether or not they would like to pursue a higher education. During the search stage, the student decides what values and attributes of a college are important to him/her individually. At the choice stage, the student decides upon the colleges to which he/she will apply and possibly attend (Braxton, 1990).

As the student moves through the search stage to the choice stage, the decision process has been likened to a funnel (Litten, 1982). Sifting through a wide variety of options, the student weighs the different institutional characteristics, including academic programs (Chapman and Jackson, 1987; Keller and McKewon, 1984), cost (Keller and McKewon 1987; Chapman, 1981; Leslie and Brinkman, 1987) and geographic location (Rouse, 1994). In fact, Chapman (1981) calls these three characteristics – quality, cost and location – as fixed, i.e., characteristics the institutions cannot influence or change (Braxton, 1990). Other characteristics, like the awarding of financial aid, Chapman would call more fluid. Yet, as the student weighs all of this, he/she narrows down the possible choices until one college is chosen.

Pyramid Model

From an institutional perspective, the entire enrollment process is also seen as a funnel, from a large number of prospective students, to a smaller number of applicants, to an even smaller number of acceptances and matriculants. Thus, the traditional way to increase enrollments (bottom of the funnel) is to increase the number of prospective students (top of the funnel), and the way to increase the number of prospects is through effective marketing and contact campaigns.

At DePaul, we have taken this funnel model and turned it around. By doing so, we have constructed an ***enrollment pyramid*** with prospects at the base and alumni at This approach allows for a cumulative and integrated set of enrollment development strategies from marketing to retention, sequential strategies that build upon each other to achieve desired enrollment goals and outcomes (Kalsbeek, 2000; in press). The

result is a loop effect as marketing strategies turn graduates into new prospects and enrollment management strategies are re-applied. For example, effective recruitment

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strategies are best built upon a broad base of marketing initiatives; to be successful, retention strategies must be grounded in the admissions and financial aid strategies of the institution.

The enrollment pyramid for any institution or any targeted student population offers a necessary descriptive image of the enrollment process. It also identifies the critical *pressure points* for enrollment management strategies, and the opportunities and performance objectives for shaping the enrollment profile. For example, Kalsbeek (in press) writes that the single most cost effective strategy for boosting enrollments is to understand the characteristics of the successful student. With this information, the enrollment manager would go into the market to find 20 prospects that share these characteristics. To identify these characteristics requires the use of predictive statistical models to drill down into the base of the pyramid to identify, through the use of historical institutional data, the successful student.

Different areas of the university bear differing levels of responsibility for the execution of the various strategies at each level of this pyramid. DePaul's Offices of Enrollment and Marketing Research (OEMR) and Institutional Planning and Research (OIPR) bear primary responsibility for providing quantifiable evidence of success for the strategies at each level. OEMR is concerned primarily with assessment at the prospect

through enrolled steps of the pyramid and OIPR with the enrolled through graduate steps[1]. Frequently, these two offices will collaborate on research projects where there are overlapping concerns. One such collaboration was DePaul's Senior Survey as this survey could answer questions both about the gains of our graduates (top of the pyramid) as well as suggest marketing strategies for prospective graduate students (bottom of the pyramid). In other words, with this survey, we could work both ends of the pyramid.

Senior Survey

As institutions face continuing pressure from local, state and national constituencies for accountability, many institutions are moving towards a mindset of greater assessment. Some of these assessment practices involve feedback from the students at the course level about instructional quality and curricular success (Angelo and Cross, 1993). Other, more structured, feedback comes in the form of student survey data (Andrade and Campos, 1999). Although classroom-level assessment occurs at DePaul, our surveys of current students, while useful for assessing some level of academic and personal achievement, were not adequate as a tool for demonstrating achievement of institutional learning goals. Thus, there was a need for one additional survey to be administered at the time of graduation.

Partly as a response to concerns about the underlying infrastructure of academic management information resources related to assessment (Ewell, 1999) and to provide feedback for the student outcomes assessment plan approved by the North Central Association of Colleges and School (NCA) during its 1997 reaccredidation visit,

[1] This is not to imply that OEMR is not concerned with strategies beyond the enrolled level. Financial Aid strategies are very important to maintaining current levels of enrollment along with bringing in new students.

representatives from Enrollment Management, Alumni Relations, Teaching, Learning and Assessment, and the Office of Institutional Planning and Research (OIPR) created a new survey to serve as a primary tool for the University's ongoing outcomes assessment initiatives.

In 1995, Faculty Council approved a set of Ten University Learning Goals upon which the education of all DePaul's undergraduate degree recipients should be characterized. DePaul's institutional assessment plans are based on these ten goals. The senior survey was designed to assess the students' perceived gains in areas specified by DePaul's Ten Learning Goals, as well as their satisfaction with various aspects of their undergraduate experience. Students were also asked to indicate their future plans, including their intention to possibly pursue an advanced degree and, if known, their employment plans. After the successful administration of the survey to June 2000 graduates, the instrument was refined for 2001 to collect more detailed information regarding the University's 10 learning goals.

Current Study

In this paper, we will demonstrate how this one survey can provide input to both ends of the enrollment pyramid. We present the results from the items pertaining to the 10 Learning Goals for students who completed the 2001 survey to show how students gains and achievement of institutional learning goals can contribute to university assessment initiatives; thereby informing strategies for the top of the pyramid. Also, we explore differences in satisfaction with the university for those who were entertaining notions of attending DePaul for graduate study versus those who would not consider re-

ernolling. This information can feed the marketing strategies at the bottom of the pyramid for developing prospects.

Methodology

Graduation coordinators from each of the college offices were contacted and asked to assist OIPR in the administration of the survey. Coordinators were asked to administer the survey to all undergraduates at the time they submitted their application for graduation. Applicants also had the option to complete this survey on-line[2]. Students were asked to provide their student ID number on the survey so that their responses could be linked to other institutional data. OIPR received responses from nearly 60% of the June 2000, and 75% of June 2001 baccalaureate degree recipients.

The Senior Survey instrument underwent an extensive review for the spring 2001 administration, and the battery of assessment items was expanded to include twenty-eight questions that comprise the ten learning goals. These responses were made on a 4-point scale where higher numbers indicate more agreement. This revision, however, makes two-year comparisons difficult. This revision process left only a handful of items available for multi-year analysis. These items focus on satisfaction with various aspects of the student experience while attending the institution. These responses were made on a 5-point scale where higher numbers indicate more satisfaction.

The presentation of the results will encompass two approaches, one focused on the top of the pyramid and a second on the bottom. Approaches to quantify successful strategies at the top of the pyramid appeals to the assessment researchers and those interested in the absolute gains made by students in the domains specified by the

[2] The School of CTI utilized an exclusively online survey and made completion mandatory for all graduation applicants.

institutional learning goals. What is the institution doing well? Where were the opportunities missed? What are students likes and dislikes? Approaches to quantify success at the bottom of the pyramid appeals to the enrollment management and marketing researchers with the emphasis on differentiating the student who would consider re-enrolling from the student who would not.

Results

The Top of the Pyramid: The Development of DePaul's Graduates

The assessment researcher typically wants to identify the best practices of the institution. What is being done well? Where do students perceive that development was lacking? To answer these questions, the assessment researcher would look at absolute gains reported by students on the domains of importance to the institution, oftentimes down to the program level. The assessment researcher will also study those aspects of their institutional experiences for which students report being satisfied.

For the 2001 survey, twenty-eight questions were asked aimed at assessing students perceived gains in DePaul's learning goals (see Appendix A for definitions of each learning goal). In an effort to generate a summary measure for each goal, the items pertaining to each goal were averaged creating an index of each goal for the individual respondent. Averaging these indices across respondents provides a convenient summary measure for each goal. Table 1 highlights these summary scores for each goal. It would appear that the most gains were made in those areas considered the more academic and career-related areas, with lesser reported gains made in the more personal development areas.

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Also on the 2001 survey, students were asked to indicate their level of satisfaction with various aspects of their experiences at DePaul. Table 2 shows the mean scores on these items for all respondents. Students were most satisfied with their employment prospects, followed by program quality. Students were least satisfied with the finances of their education.

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The Bottom of the Pyramid: Graduate Student Prospects

Enrollment management and marketing researchers are interested in differentiating between the student who is a potential prospect and the student who is not a potential prospect. To study these differences, one question on the survey, "What is the probability that you would attend DePaul for graduate school" becomes very important. With this item, we can differentiate those who would probably choose DePaul from those who would probably not choose DePaul for graduate studies. Then we can look at differences between these two groups of people. From these differences, we can identify features of potential prospects for graduate programs, thereby feeding the bottom of the enrollment pyramid.

As is shown in Table 3, significant differences exist between these two groups on virtually all the gains scores and satisfaction ratings, and, not surprisingly, those interested in possibly returning to DePaul reported larger gains and more satisfaction.

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Another approach, instead of comparing prospects to non-prospects, would be to compare those students reporting more or less gains (and greater or lesser satisfaction) in terms of their possible re-enrolling at the institution. Figure 2 compares students in terms of their gains on some of the learning goal domains[3] and their prospects for attending graduate school at DePaul. Those reporting more gains were more likely to be prospective graduate students than those reporting less gains.

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Comparison of the Two Approaches

Table 4 outlines some of the differences in the findings between the two approaches. Looking at these results, assessment researchers would conclude that the institution is most successful in developing students' self-reflection and life skills, along with providing a mastery of content and accomplishing goals. Furthermore, the fact that

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program quality is one of the highest rated satisfaction items would be good news to faculty members charged with the institution's assessment initiatives. Enrollment management and market researchers, though, would conclude that we might have greater impact on developing prospects by focusing on gains made in communication, literacies and goal accomplishment. While in absolute terms, satisfaction with program quality was high, this item does not differentiate between those who would choose

DePaul versus those who would not choose DePaul. One could conclude that emphasizing program quality when trying to recruit these students might not be the most effective argument. The gaps scores suggest emphasizing the career development aspects of graduate study.

Importance of Demography

To assess those factors influencing students' decisions to pursue graduate degrees at DePaul, the satisfaction items, gains scores (goal indices) were entered into separate logistic regressions predicting whether or not a student would possibly select DePaul as the graduate school of choice. Student demographic data (race, gender, age and college of enrollment[4]) were first entered into each equation as control factors. As is shown in Table 5, it quickly became apparent that the demographic variables

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(particularly race and college) were moderating the relationship between student satisfaction and perceptions of gains and the possibility of attending DePaul for graduate school. Therefore, it is important to consider comparisons on the satisfaction and gains scores within the context of student demography.

Table 6 shows the percentage of students within demographic groups and across programs who would consider re-enrolling at DePaul for graduate study. In general, African-American and Hispanic students were more positive about their prospects for re-enrolling than Asian or Caucasian students. Also, older students (over the age of 30)

[3] A median split was used to define those reporting "more" gains versus those reporting "less gains".
[4] Since DePaul's performance arts schools (Music and Theatre) have a policy of not allowing their baccalaureate recipients to pursue graduate studies at DePaul, students from these schools were excluded from these analyses.

were similarly more positive. There were no differences by gender. Race differences were seen in the Business and Liberal Arts programs.

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Considering student demographics in the analyses is a normal part of assessment research as program-level comparisons are an important indicator of program quality and effectiveness. For example, while gains in Personal Arts may not have any importance for a business student, they would be of great importance to students in a music or theatre program. Table 7 lists the five areas of greatest gains by different program types at DePaul. Also listed are those areas of greatest and least satisfaction. As expected, differences across program exist in the areas of most gain.

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For example, oneway ANOVAs on the gains scores showed that computer science students reported greater gains in the Multiple Literacies goal (which includes computer literacy as a component) than students in other programs ($F(4,1185)=40.05$, $p < .001$) and performing arts students indicated greater gains in the Personal Arts goal than students in business or computer science ($F(4,1170)=14.69$, $p < .001$)[5]. A similar approach can be taken to investigate differences by race, gender and age groups in gains and satisfaction ratings. Tables 8 and 9 show the top gains and satisfaction ratings reported by race (Table 8), gender and age groups (Table 9). As is evident from these tables, while the orders may change across groups, those areas with largest

[5] An entry in the table does not indicate that the value for that program significantly differed (statistically) from the scores of other programs. Table 3 is entirely for explanatory purposes.

reported gains or aspects of highest and lowest satisfaction do not differ much across the different demographic groups. The assessment research would conclude based on these findings that the institution is not providing differential treatment to students of different gender, ethnicity or age.

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Insert Tables 8 and 9 about here
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To engage in more targeted marketing campaigns (Kalsbeek, in press), the enrollment management researcher would want to know what differentiates the prospect from the non-prospect within the different demographic groups. Table 10 shows the mean differences between prospects and non-prospects within each program. Tables 11 and 12 show the same for each ethnic group (Table 11), gender and age group (Table 12). These tables suggest, for example, that emphasizing program quality may work when recruiting computer science graduate students, but not business students (Table 10). Also, focusing more on developing multiple literacies and less on communications skills developed would be advisable when soliciting prospects from among the Hispanic students (Table 11). Finally, an emphasis on advising and career services might be more effective with our under 26 prospects while a focus on self-reflection and life skills might appeal to the older student (Table 12). Obviously, a more thorough mining of these data would probably reveal more detailed interactive relationships among these variables.

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Insert Tables 10, 11 and 12 about here
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Discussion

DePaul University's Graduating Senior Survey was originally designed to serve as a starting point for the University's assessment initiatives. However, a different orientation to the data analysis provided for informing the institution's enrollment management and marketing strategies. In other words, this survey was able to service two agendas: the assessment agenda and the enrollment management/marketing agenda by simultaneously focusing on the top and bottom of the enrollment pyramid. What can we say about the potential impact of our analyses on each of these two areas?

Assessment

This survey serves as a valuable starting point in benchmarking student perceptions of the institution's learning outcomes and experiences. This type of capstone assessment is critical in the assessment process, providing a link from freshman to alumni assessment for a comprehensive understanding of the value of an education from the institution. We learned about students' perceived gains, opportunities missed by the institution, and students' likes and dislikes. In other words, we can identify the best practices of the institution.

This survey provides benchmarking of student perceptions of their learning outcomes. This benchmarking takes two forms. First, this is a continuing survey so that with these baseline data, we can assess changes over time. For example, are programs designed to student gains in certain areas having the desired impact? Second, the items used here are similar in form to other national surveys in which the

university engages. Thus, we can compare our students to groups of similar institutions on a number of dimensions.

Finally, this survey completes the linear cycle of surveys that begins with enrollment and continues through graduation. Multiple data collection points are essential to a complete understanding of our students' experiences. The effectiveness of this design has also been sited in several studies that found multiple points of data collection are preferred to one-shot techniques (Astin, 1991; Halpern, 1987). With the multiple data collection points, we can link freshmen to alumni perceptions of the value of a DePaul education.

Enrollment Management.

Based on the strong interest in graduate study expressed by our respondents, rising juniors and graduating seniors are a rich, viable recruiting pool for DePaul. Students who are interested in continuing at DePaul for their graduate work have had a positive undergraduate experience at DePaul, and perceive the value of a DePaul education to a greater extent than those who are not interested in DePaul for graduate study. From this survey we have identified several opportunities to strengthen the loop of the enrollment pyramid from alumni to student.

First, we need to continue efforts to assess and strengthen the DePaul educational experience. Using the learning goals as a conceptual framework for understanding DePaul's value, the Senior Survey is a useful tool for assessing students' perceived value and for engaging the DePaul community in discussions around DePaul's strengths. These efforts underpin the recruitment of current students, as well as the new students.

Second, we must keep lines of communication with graduating students open to develop recruitment opportunities. This may include special recruitment direct mail, open house and follow-up strategies for rising juniors and graduating seniors, targeted advising for mapping undergraduate programs into graduate degree programs, and the development of special 3+2 master's degree packages for existing undergraduate programs. For example, the business school is exploring options for master's level business programs that can be packaged for liberal arts and science majors.

Third, the analyses suggest developing value-added services in career development. While external factors such as the strength of the economy play a large role in perceived employability, employability items had large gaps between those interested in DePaul and those not interested in DePaul in 2000 and satisfaction with employability dropped in 2001. Both trends suggest that additional services may be required to guide students through changing economic times.

Fourth, we should more effectively communicate the institution's affordability to prospective graduate students. Perceived affordability was the lowest rated item, falling at or below the scale middle point, but provided one of the best measures for distinguishing between prospects and non-prospects. Competitive market analysis suggests that DePaul's affordability is in line with peer schools for several key colleges, and this information can be a valuable addition to the recruitment package.

Finally, we also should engage in more thorough mining of these data to determine higher-order interactive relationships that might exist. Such analyses will perhaps suggest the necessity to heighten development of ethnic market segmentation to target minority students. It will also provide information about adult age segmentation

for older students. Having detailed information about these growing segments of the population serves to inform the targeted marketing strategies necessary for guaranteeing that enrollment budgets are met.

Conclusions

Perhaps the most important outcome of this project was the greater collaboration between two offices at the institution that engage in institutional research. Typically, such collaborative efforts involve post-hoc research to provide opportunities for creative multi-purpose analysis. Primary research fielded by one research office often lends itself to additional secondary analysis. This is the case here with the Senior Survey, where a more focused reanalysis for the purposes of informing recruitment and marketing strategy was conducted. Other times, collaboration occurs when launching primary research efforts or secondary analyses to maximize efficiencies. DePaul's unique structure of two sizable research offices provides us with the opportunity to collaborate on broad research projects for the benefit of understanding both institutional activities like assessment and program review, and informing the recruitment and marketing activities of enrollment management. Projects that we are jointly sponsoring include a three-pronged alumni research project that includes an assessment of learning goals, educational outcomes, and interest in continued educational and related products and services. Whichever of these approaches are taken, the ultimate goal is to design research that is tied closely with institutional priorities to heighten institutional awareness and inform decision-making.

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Appendix A

DePaul University's Ten Learning Goals

1. Mastery of Content. A DePaul graduate will establish mastery of a body of knowledge and skills in depth and breadth.

2. Articulate Communication. A DePaul graduate will be able to communicate articulately in both the spoken and the written word, being able to read and to listen critically in order to understand the conversation in progress, and to adjust diction and style to the anticipated audience, to the subject matter and to the purpose of the communication. This goal recognizes the necessity that a student's ability to communicate keep pace with the increasing subtlety, precision and depth of the student's knowledge, sensibilities and deliberative powers.

3. Capacity to Work Toward Accomplishing Goals Both Independently and Cooperatively. A DePaul graduate will have the capacity to work toward accomplishing goals both independently and as part of a team. This means being able to engage in inquiry, being self-directed in one's work, and being able to cooperate toward group accomplishment.

4. Knowledge of and Respect for Individuals and Groups Who are Different from Themselves. DePaul graduates will have knowledge of and respect for individuals and groups who are different from themselves. This goal recognizes the importance of multicultural and global approaches to teaching and learning as core strands in our curriculum and that the study and examination of differences and diversity are integral to and interwoven throughout one's education at DePaul University.

5. Development of Service-Oriented, Socially Responsible Value and Ethical Framework. A DePaul graduate will develop or enhance his/her value and ethical framework and respect the religious and ethical foundations that are central to DePaul's mission. This goal requires the University to provide opportunities, incentives and resources to help students appreciate their responsibilities to others and to society.

6. Critical and Creative Thinking. A DePaul graduate will be capable of thinking critically and creatively, integrating knowledge and ways of knowing, making reflective judgments, identifying significant ideas and their underlying assumptions, biases, and presuppositions.

7. Development of Multiple Literacies. A DePaul graduate will develop multiple literacies, including computer literacy, information literacy, math literacy or numeracy, linguistic literacy, visual literacy and scientific literacy.

8. A Personal Arts and Literature Aesthetic in Formation. A DePaul graduate will form a personal arts and literature aesthetic as a component of keen judgment, flexible imagination, self-expression and moral sensibility.

9. Self-Reflection/Life Skills. DePaul graduates will be able to apply their DePaul education t life and learning, to reflect on learning and experiences, and discover what choices are available to them and how to make life's choices wisely.

10. Historical Consciousness. A DePaul graduate will develop knowledge and appreciation o the past and its role in shaping the present and the future.

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Table 1. DePaul Institutional Learning Goal Indices

	# Items	Reliability (alpha)	Mean
Goal 1: Mastery of Content	3	.727	3.22
Goal 2: Articulate Communication	2	.715	3.08
Goal 3: Capacity to Work Towards Accomplishing Goals Both Independently and Cooperatively	2	.669	3.23
Goal 4: Knowledge and Respect for Individuals and Groups Who are Different	5	.837	3.02
Goal 5: Development of a Service-Oriented, Socially Responsible Value and Ethical Framework	4	.829	2.92
Goal 6: Critical and Creative Thinking	2	.776	3.18
Goal 7: Development of Multiple Literacies	4	.742	2.83
Goal 8: A Personal Arts and Literature Aesthetic in Formation	3	.766	2.78
Goal 9: Self-Reflection and Life Skills	1	N/A	3.32
Goal 10: Historical Consciousness	2	.769	2.77

Note. The 2001 items were estimates of gains where students were asked to indicate how much attending DePaul contributed to their development in each area, using a 4-point scale 1=Little, 2=Some, 3=Quite a Bit and 4=Very Much.

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Table 2. Satisfaction with DePaul Experiences

	Mean	Std. Dev.
My employability in my chosen career field	3.74	1.03
Quality of DePaul's undergraduate programs and faculty	3.56	1.16
The range and variety of the technological resources and assistance offered	3.50	1.30
The friendships made and social life at DePaul	3.43	1.22
Professional and career connections made at DePaul	3.28	1.22
The range and variety of the career services and assistance offered at DePaul	3.26	1.16
DePaul's service to students	3.26	1.14
Advising received on courses, majors and other academic information	3.23	1.19
The degree to which DePaul's mission is integrated into the culture of the University	3.22	1.12
DePaul's affordability (cost minus any financial assistance received)	2.86	1.21

Note. The satisfaction items used a 5-point scale with higher numbers indicating more satisfaction.

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Table 3. Mean Differences for Potential Prospects for Graduate Study versus Non-Prospects

	Prospect	Non-Prospect	t	*df*	*p*
Goal Indices					
Mastery of content	3.34	3.14	5.09	1,010	<.001
Articulate communication	3.24	2.94	6.78	1,010	<.001
Capacity to work towards accomplishing goals both independently and cooperatively	3.40	3.06	7.81	1,008	<.001
Knowledge and respect for individuals and groups who are different	3.13	2.97	3.79	1,008	<.001
Development of a service-oriented, socially responsible value and ethical framework	3.03	2.82	4.35	1,010	<.001
Critical and creative thinking	3.31	3.06	5.92	1,010	<.001
Development of multiple literacies	3.04	2.74	7.53	1,012	<.001
A personal arts and literature aesthetic in formation	2.78	2.63	2.92	1,000	<.01
Self-reflection and life skills	3.43	3.14	6.04	1,006	<.001
Historical consciousness	2.93	2.68	4.96	1,012	<.001
Satisfaction Items					
Quality of undergraduate programs and faculty	3.60	3.51	1.28	1,259	n.s.
Social life	3.43	3.32	1.57	1,218	n.s.
Advising	3.31	3.08	3.33	1,239	<.005
Technological resources	3.56	3.44	1.80	1,261	n.s.
Integration of university mission into institutional culture	3.31	3.10	2.99	1,078	<.005
Services to students	3.41	3.11	4.55	1,252	<.001
Affordability	3.01	2.67	4.90	1,250	<.001
Career services	3.36	3.18	2.60	1,192	<.01
Employability in my chosen profession	3.93	3.53	6.03	922	<.001
Professional and career connections	3.32	3.11	2.82	1,155	<.01

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Table 4. Summary of Findings from Assessment and Enrollment Management Approaches

Gains in Learning Goal Domains		Satisfaction with DePaul Experiences	
Assessment	Enrollment Management	Assessment	Enrollment Management
Self-Reflection	Multiple Literacies	Employability	Employability
Accomplishing Goals	Articulate Communication	Program Quality	Affordability
Mastery of Content	Accomplishing Goals	Technological Resources	Student Services/Advising
Critical/Creative Thinking	Historical Consciousness	Social Life	Career Services

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Table 5. Logistic Regression Weights and Odds Ratios

	Without Demographics			With Demographics		
	B	Exp (B)	*p*	B	Exp (B)	*p*
Satisfaction Items						
Quality of undergraduate programs and faculty	.20	1.22	.098	.15	1.16	.269
Social life	.20	1.22	.029	.23	1.26	.029
Advising	.00	1.00	.975	.09	1.09	.389
Technological resources	.23	1.25	.029	.16	1.18	.165
Integration of university mission into institutional culture	.03	1.03	.761	.02	1.02	.870
Services to students	.20	1.22	.078	.18	1.20	.159
Affordability	.00	1.00	.981	-.02	.98	.801
Career services	.10	1.10	.360	.08	1.09	.511
Employability in my chosen profession	.12	1.13	.266	-.06	.95	.671
Professional and career connections	-.09	.92	.415	-.02	.98	.877
Goal Indices						
Goal 1: Mastery of Content	-.18	.84	.275	-.098	.91	.619
Goal 2: Articulate Communication	.30	1.34	.024	.325	1.39	.031
Goal 3: Capacity to Work Towards Accomplishing Goals Both Independently and Cooperatively	.38	1.47	.008	.15	1.16	.399
Goal 4: Knowledge and Respect for Individuals and Groups Who are Different	-.47	.63	.013	-.27	.76	.225
Goal 5: Development of a Service-Oriented, Socially Responsible Value and Ethical Framework	.11	1.12	.480	.08	1.08	.682
Goal 6: Critical and Creative Thinking	.09	1.10	.519	.14	1.15	.409
Goal 7: Development of Multiple Literacies	.58	1.78	.000	.17	1.19	.320
Goal 8: A Personal Arts and Literature Aesthetic in Formation	-.26	.77	.042	.02	1.02	.898
Goal 9: Self-Reflection and Life Skills	.17	1.18	.163	.21	1.24	.131
Goal 10: Historical Consciousness	.20	1.22	.101	.36	1.44	.016

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Table 6. Probability of Re-Enrolling by Student Demography and Program

	Business	Computer Science	Liberal Arts	Overall
African-American	81.4%	73.3%	53.8%	70.8%
Asian	70.8%	81.3%	37.0%	67.9%
Hispanic	90.8%	75.0%	55.9%	76.5%
Caucasian	69.2%	82.1%	34.2%	57.1%
χ^2	18.73[c]	1.02	13.13[b]	27.20[c]
Male	68.3%	77.1%	42.2%	63.6%
Female	77.3%	81.8%	38.6%	60.8%
χ^2	5.70[a]	0.62	1.05	0.94
Under 26	72.0%	76.3%	38.4%	60.1%
26 to 30	70.4%	85.7%	44.4%	66.7%
Over 30	87.8%	100.0%	28.6%	78.4%
χ^2	5.87	4.38	1.12	11.14[b]

[a] $p \leq .05$; [b] $p \leq .01$; [c] $p \leq .001$

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Table 7. Gains in Learning Goals and Ratings of Satisfaction by Program of Study

	Business	Computer Science	Liberal Arts	Performing Arts	Education
Learning Goals with Largest Gains (in descending order):	Accomplishing Goals Self Reflection Mastery of Content Critical/Creative Thinking Articulate Communication	Accomplishing Goals Self Reflection Critical/Creative Thinking Mastery of Content Multiple Literacies	Self Reflection Mastery of Content Critical/Creative Thinking Respect for Diversity Accomplishing Goals	Self Reflection Personal Arts Accomplishing Goals Mastery of Content Critical/Creative Thinking	Accomplishing Goals Self-Reflection Respect for Diversity Critical/Creative Thinking Mastery of Content
Most Satisfied:	Employability Program Quality Tech. Resources	Employability Tech. Resources Program Quality	Program Quality Tech. Resources Employability	Social Life Career Connections Program Quality	Social Life University Mission Tech. Resources
Least Satisfied:	Affordability Advising University Mission	Affordability Advising University Mission	Affordability Career Connections University Mission	Affordability Student Services Career Services	Advising Affordability Student Services

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Table 8. Gains in Learning Goals and Ratings of Satisfaction by Race

	African-American	Asian	Hispanic	Caucasian
Learning Goals with Largest Gains (in descending order):	Accomplishing Goals Self Reflection Mastery of Content Articulate Communication Critical/Creative Thinking	Accomplishing Goals Self Reflection Critical/Creative Thinking Mastery of Content Articulate Communication	Self Reflection Mastery of Content Critical/Creative Thinking Accomplishing Goals Articulate Communication	Self Reflection Mastery of Content Accomplishing Goals Critical/Creative Thinking Articulate Communication
Most Satisfied:	Employability Program Quality Tech. Resources	Employability Tech. Resources Program Quality	Employability Tech. Resources Program Quality	Employability Tech. Resources Program Quality
Least Satisfied:	Affordability University Mission Social Life	Affordability Advising University Mission	Affordability Professional Connections Advising	Affordability Student Services Career Services

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Table 9. Gains in Learning Goals and Ratings of Satisfaction by Gender and Age Group

	Male	Female	Under 26 years	26-31 years	Over 30 years
Learning Goals with Largest Gains (in descending order):	Self Reflection	Self Reflection	Self Reflection	Self Reflection	Self Reflection
	Accomplishing Goals	Mastery of Content	Accomplishing Goals	Mastery of Content	Mastery of Content
	Mastery of Content	Accomplishing Goals	Mastery of Content	Accomplishing Goals	Critical/Creative Thinking
	Critical/Creative Thinking	Critical/Creative Thinking	Critical/Creative Thinking	Critical/Creative Thinking	Accomplishing Goals
	Articulate Communication	Articulate Communication	Articulate Communication	Articulate Communication	Articulate Communication
Most Satisfied:	Employability Tech. Resources Program Quality	Employability Program Quality Tech. Resources	Employability Program Quality Tech. Resources	Employability Tech. Resources Program Quality	Employability Program Quality Tech. Resources
Least Satisfied:	Affordability University Mission Student Services	Affordability Advising University Mission	Affordability Advising University Mission	Affordability Professional Connections Student Services	Affordability Professional Connections Student Services

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Table 10. Mean Differences Between Prospects and Non –prospects Within Programs

	Business	Computer Science	Liberal Arts	Education
Satisfaction Items (5-point satisfaction scale)				
Quality of undergraduate programs and faculty	0.151	0.453[b]	0.227[b]	0.505
Social life	0.032	0.372[b]	0.176	0.121
Advising	0.388[b]	0.632[b]	0.129	0.126
Technological resources	0.092	0.200	0.360[c]	0.023
Integration of university mission into institutional culture	0.214	0.368	0.206	0.648
Services to students	0.263[a]	0.569[b]	0.332[b]	0.346
Affordability	0.078	0.642[b]	0.298[a]	0.385
Career services	0.022	0.387[a]	0.244[a]	0.199
Employability in my chosen profession	0.171	0.309[a]	0.281[a]	0.324
Professional and career connections	-0.017	0.515[b]	0.348[b]	0.505
Goal Indices (4-point gains scale)				
Goal 1: Mastery of Content	0.338[c]	0.325[b]	0.133[a]	0.421
Goal 2: Articulate Communication	0.368[c]	0.454[b]	0.246[b]	0.206
Goal 3: Capacity to Work Towards Accomplishing Goals Both Independently and Cooperatively	0.440[c]	0.305[b]	0.200[b]	0.154
Goal 4: Knowledge and Respect for Individuals and Groups Who are Different	0.328[c]	0.177	0.195[b]	0.031
Goal 5: Development of a Service-Oriented, Socially Responsible Value and Ethical Framework	0.462[c]	0.255	0.192[b]	0.150
Goal 6: Critical and Creative Thinking	0.451[c]	0.216	0.194[b]	0.066
Goal 7: Development of Multiple Literacies	0.375[c]	0.302[b]	0.132	0.497
Goal 8: A Personal Arts and Literature Aesthetic in Formation	0.399[c]	0.195	0.191[a]	0.220
Goal 9: Self-Reflection and Life Skills	0.458[c]	0.372[b]	0.258[b]	0.264
Goal 10: Historical Consciousness	0.520[c]	0.390[b]	0.268[b]	0.104

[a] $p \leq .05$; [b] $p \leq .01$; [c] $p \leq .001$

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Table 11. Mean Differences Between Prospects and Non-prospects by Ethnicity

	African-American	Asian	Hispanic	Caucasian
Satisfaction Items (5-point satisfaction scale)				
Quality of undergraduate programs and faculty	0.240	0.493[a]	-0.033	0.060
Social life	0.261	0.447[a]	0.045	0.107
Advising	0.066	0.343	0.426[a]	0.197[a]
Technological resources	0.079	0.087	0.224	0.112
Integration of university mission into institutional culture	0.409	0.050	0.190	0.234[a]
Services to students	0.326	0.324	0.339	0.299[b]
Affordability	0.098	0.205	0.441[a]	0.361[c]
Career services	0.021	0.230	0.098	0.249[b]
Employability in my chosen profession	0.176	0.283	0.347	0.540[c]
Professional and career connections	0.165	0.472[a]	0.222	0.238[a]
Goal Indices (4-point gains scale)				
Goal 1: Mastery of Content	0.152	0.438[b]	0.045	0.169[b]
Goal 2: Articulate Communication	0.546[b]	0.458[c]	0.064	0.269[c]
Goal 3: Capacity to Work Towards Accomplishing Goals Both Independently and Cooperatively	0.415[a]	0.249	0.312[a]	0.347[c]
Goal 4: Knowledge and Respect for Individuals and Groups Who are Different	0.233	0.261	-0.024	0.156[b]
Goal 5: Development of a Service-Oriented, Socially Responsible Value and Ethical Framework	0.306[a]	0.230	0.032	0.174[b]
Goal 6: Critical and Creative Thinking	0.384[a]	0.302[a]	0.072	0.227[c]
Goal 7: Development of Multiple Literacies	0.310[a]	0.267[a]	0.332[b]	0.304[c]
Goal 8: A Personal Arts and Literature Aesthetic in Formation	0.021	0.265	0.074	0.127
Goal 9: Self-Reflection and Life Skills	0.306	0.413[a]	0.136	0.256[c]
Goal 10: Historical Consciousness	0.177	0.513[b]	0.313[a]	0.186[b]

[a] $p \leq .05$; [b] $p \leq .01$; [c] $p \leq .001$

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Table 12. Mean Differences Between Prospects and Non-prospects by Gender and Age Group

	Male	Female	Under 26 years	26 to 31 years	Over 30 years
Satisfaction Items (5-point satisfaction scale)					
Quality of undergraduate programs and faculty	0.356[b]	-0.085	0.141	0.072	-0.338
Social life	0.244[a]	0.101	0.210[b]	0.211	-0.349
Advising	0.370[b]	0.187[a]	0.312[c]	0.305	-0.760
Technological resources	0.277[b]	0.036	0.170[a]	0.121	-0.065
Integration of university mission into institutional culture	0.154	0.259[b]	0.174[a]	0.499[a]	0.398
Services to students	0.457[c]	0.242[b]	0.380[c]	0.277	-0.239
Affordability	0.325[b]	0.408[c]	0.463[c]	-0.070	-0.217
Career services	0.391[b]	0.061	0.224[b]	0.141	0.088
Employability in my chosen profession	0.534[c]	0.270[b]	0.430[c]	0.220	0.123
Professional and career connections	0.371[b]	0.183	0.333[c]	0.035	-0.099
Goal Indices (4-point gains scale)					
Goal 1: Mastery of Content	0.234[c]	0.192[c]	0.198[c]	0.259	0.229
Goal 2: Articulate Communication	0.281[c]	0.322[c]	0.282[c]	0.312[a]	0.643[b]
Goal 3: Capacity to Work Towards Accomplishing Goals Both Independently and Cooperatively	0.342[c]	0.354[c]	0.312[c]	0.491[b]	0.780[b]
Goal 4: Knowledge and Respect for Individuals and Groups Who are Different	0.131	0.203[c]	0.166[c]	0.273	0.225
Goal 5: Development of a Service-Oriented, Socially Responsible Value and Ethical Framework	0.183[a]	0.248[c]	0.227[c]	0.238	0.081
Goal 6: Critical and Creative Thinking	0.262[c]	0.255[c]	0.243[c]	0.336[a]	0.264
Goal 7: Development of Multiple Literacies	0.313[c]	0.326[c]	0.309[c]	0.406[b]	0.305
Goal 8: A Personal Arts and Literature Aesthetic in Formation	0.185[a]	0.136[a]	0.133[a]	0.319	0.494
Goal 9: Self-Reflection and Life Skills	0.309[c]	0.286[c]	0.271[c]	0.320	0.457[b]
Goal 10: Historical Consciousness	0.178[a]	0.293[c]	0.244[c]	0.371[a]	0.100

[a] $p \leq .05$; [b] $p \leq .01$; [c] $p \leq .001$

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Figure Captions

Figure 1. Pyramid Model of Enrollment

Figure 2. Percentage Comparisons of Choosing DePaul by Learning Goals

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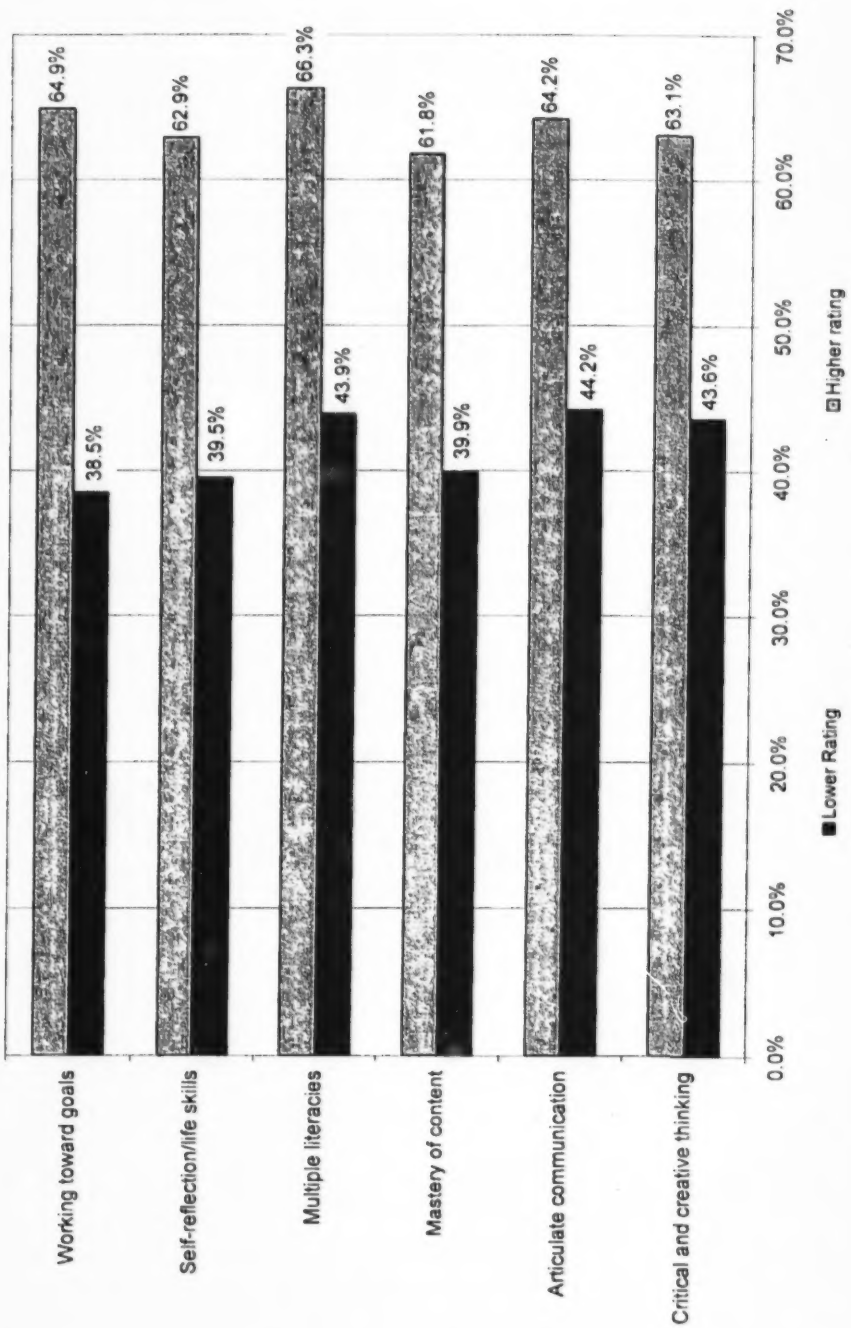
An Enrollment Pyramid

shows critical & cumulative "pressure points" for enrollment management strategies



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